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Jeremy Mercer

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EXAMINER

RICHER, AARON M

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/798,206	Applicant(s) MERCER, JEREMY	
	Examiner AARON M. RICHER	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7-13, 19, 20 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-13, 19, 20 and 22-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-4, 8-13, 19, 20, and 22-25 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 8-13, 19-20, and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sprenger. ("H-BLOB: A Hierarchical Visual Clustering Method Using Implicit Surfaces") in view of Bauernschmidt (U.S. Publication 2004/0168115) and further in view of Maulsby (U.S. Patent 5,710,894).

4. Regarding claim 1, Sprenger teaches using shapes to visually represent design elements on a visual design surface, wherein the design elements are entities of a process or system being designed by a user and the design elements include a first design element and a second design element. (p. 3 Section 2.2, p. 3-p.4 Section 2.3). It should be noted that Sprenger teaches a plurality of objects (design elements), which may take the shape of a dot, icon, glyph, etc.

Furthermore Sprenger teaches defining characteristics for the design elements such that each of the design elements is associated with one of the characteristics, wherein the characteristic associated with the first design element is different than the

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characteristic associated with the second design element and associating the characteristics with auras, respectively, each of the auras being a visually perceptible element on the visual design surface that is distinguishable from the other auras, wherein different ones of the characteristics are associated with different auras. (p. 4 Section 3.1-p. 7 Section 4.2). It should be noted that Sprenger teaches objects may be clustered into blobs (auras) based on distance between their centroids. For example, in Fig. 7, level 2 objects A and BC form a cluster sharing the similar attribute of distance.

Furthermore Sprenger teaches displaying for each design element on the visual design surface with the aura associated with the characteristic associated with that design element, wherein the shapes of the first and second design elements are displayed with different auras. (p. 4 Section 3.1-p. 7 Section 4.2, Fig. 12-13).

While Sprenger does teach shapes in proximity to each other (sharing a particular characteristic) may be clustered in an aura and subsequently auras may be clustered into affinity regions (larger auras sharing similar characteristic), Sprenger does not explicitly teach automatically moving the shapes of design elements sharing a particular one of the characteristics into an affinity region for the particular characteristic, such that the moved shapes are located in proximity to each other on the visual design surface. Further, since Sprenger clusters design elements based on the distance to other design elements, Sprenger does not teach a method wherein the determination of a characteristic associated with each design element is independent of other elements.

Bauernschmidt, however, discloses determining a characteristic of an element based solely on the properties of the element itself, rather than the properties or surrounding elements (see fig. 3 and fig. 4; p. 8, sections 0048-0051; elements are grouped by the data they correspond to). Bauernschmidt further discloses moving the shapes for elements sharing characteristics into an affinity region, wherein a first design element is associated with a particular characteristic and located in the affinity region (see fig. 3 and fig. 4; p. 8, sections 0048-0051; a user can create reports which move the various cells representing data into different affinity regions). The motivation for this manipulation of independent elements is to allow user customization of data reports that show nested or hierarchical relationships (p. 8, section 0046). It would have been obvious to one skilled in the art to modify Sprenger to determine characteristics independently and move independently characterized shapes into different affinity regions in order to facilitate various user-customized reports that show data relationships as taught by Bauernschmidt.

Neither Sprenger nor Bauernschmidt discloses changing the characteristic of a second design element to be the same as a first design element in response to a user dragging the second element over an affinity region that includes the first element. Maulsby, however, discloses moving a design element from one group to another with other design elements in it, thus changing that element's characteristic (p. 38, lines 7-51). This is accomplished by dragging the element from one area into a second area. The motivation for using a dragging operation in this manner is to solve the problem of prior art methods in which it was not easy to re-categorize objects (p. 3, lines 34-44). It

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would have been obvious to one skilled in the art to modify Sprenger and Bauernschmidt to allow a user to drag an element over an affinity region to change its characteristic in order to re-categorize objects in a more user-friendly way as taught by Maulsby.

5. Regarding claims 2 and 3, Sprenger teaches a method wherein the aura comprises a color coded area surrounding the shape and wherein the aura comprises a color coded area adjacent to at least a portion of the shape. (p. 3 Section 2.2, p. 3-p.4 Section 2.3, Figs. 1-7)

6. Regarding claim 4, Sprenger teaches merging the auras with the shapes of design elements in the affinity region for the particular characteristic. (p. 4 Section 3.1 Fig. 7)

7. Regarding claim 8, Sprenger teaches characteristics defined include a use for the design element. (p. 4 Section 3.1-p. 7 Section 4.2, Fig. 12-13). It should be noted the objects taught by Sprenger may be a hit list from an intranet document query and thus, the characteristic for clustering is the proximity of one document in the hit list to another document in the hit list. This reads on the broad definition of a "use" for the element because a document's similarity to another document shows, among other things, similarity in application. For instance, one reference can be "used" similarly to another reference if they are closely related.

8. Regarding claim 9, Sprenger does not explicitly teach characteristics defined include identification of a namespace. Nonetheless Sprenger teaches an application of document retrieval visualization identifying the clustering of documents. Examiner takes

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official notice that namespaces are abstract containers or environments created to hold a logical grouping of unique identifiers. It would be obvious to one of ordinary skill in the art at the time the invention was made to cluster objects by namespace into the system of Sprenger because namespaces provide a mechanism for grouping logically related identifiers, thus allowing the user to visually distinguish the modularity of the system. Since the Sprenger reference generally deals with grouping logically related identifiers (p. 2, see discussion of “analytical clustering” of a hierarchical group; this involves taking representations, or identifiers, of data and grouping them in a hierarchy), one skilled in the art would find this to be a logical substitution.

9. Regarding claim 10, Sprenger does not explicitly teach characteristics defined include identification of an application layer. Nonetheless Sprenger teaches an application of document retrieval visualization identifying the clustering of documents. Examiner takes official notice that application layers provide services for an application program to ensure that effective communication with another application program in a network is possible. It would be obvious to one of ordinary skill in the art at the time the invention was made to cluster objects by application layer because the user can better visualize high-level set-up services for a particular application program.

10. Regarding claims 11 and 22, Sprenger teaches characteristics including identification of an importance level (comprising one of a particular importance level for the corresponding design element). It should be noted that Sprenger teaches merging clusters based on minimum distance between pairs of objects belonging to different

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clusters. Thus, the merging signifies a characteristic of “importance” of the relationship between the pairs of objects for each level. (Fig. 7)

11. Regarding claims 12 and 13, Sprenger teaches associating a particular design element with first and second characteristics and displaying the shape for the particular design element on the visual design surface with the auras associated with the first and second characteristics respectively. (p. 4 Section 3.1-p. 7 Section 4.2, Fig. 12-13)

Furthermore Sprenger teaches associating the particular design element with a third characteristic and determining the shape for a particular design element on the visual design surface with the aura associated with the third characteristic. (p. 4 Section 3.1-p. 7 Section 4.2, Fig. 12-13). For example, object in aura B may be associated with objects in auras C (level 1) and A (level II) and also associated with objects in the DE aura (level III). An example of this type of multiple association of a particular object is seen in Fig. 13 for 5 or 10 or 20 clusters.

12. Claim 19 is similar in scope to claim 1, although it does not include independent design elements. Further, Claim 19 adds the recitation of a computer readable medium containing computer executable instructions for performing the steps of claim 1.

Examiner takes official notice that a computer readable medium containing computer executable instructions is often times utilized for developing multidimensional data visualization. It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow users to utilize a computer storing computer executable instructions in the system of Sprenger because providing the capability of performing complex computational tasks at high-speed can be realized.

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13. Regarding claim 20, Sprenger teaches displaying the aura around the design element shape. (p. 3 Section 2.2, p. 3-p.4 Section 2.3, Figs. 1-7).

14. Regarding claim 23, see the rejection to claim 1, specifically the discussion of independent determination of design element characteristics.

15. Regarding claims 24 and 25, Sprenger discloses that design elements can be items such as retrieved documents, but does not specifically teach that the elements can be business processes, flowchart steps, hosting platforms, or hardware components. Bauernschmidt, however, uses hierarchical views to visualize elements that are, or relate to, hardware components (see fig. 4; a part of a hard drive, part 124, and data relating to it, is shown in the graph). The motivation for visualizing hardware components or hardware component data in this way is that a user can more easily identify data with this type of visualization (p. 1, section 0007). It would have been obvious to one skilled in the art to modify Sprenger to use hierarchical grouped views of elements that are hardware components in order to more easily visualize these components and data relating to them as taught by Bauernschmidt.

16. Regarding claims 26 and 27, neither Sprenger nor Bauernschmidt discloses that the design elements are business processes or flowchart steps corresponding to a process being designed by a user. Mulsby, however, discloses that the design elements correspond to a program process that is being designed by a user (fig. 4e, 4d; col. 15, lines 18-37). Such a visualization of program steps can read on the broad definition of a flowchart and could also correspond to steps in a business process, depending on what the program achieved. The motivation for visualization a process in

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this way is to allow a user to understand a program without specialized knowledge (col. 15, lines 34-37). It would have been obvious to one skilled in the art to modify Sprenger and Bauernschmidt to visualize flowchart steps or business processes in order to help someone comprehend a program without specialized knowledge as taught by Maulsby.

Allowable Subject Matter

17. Claim 7 is allowed. It is noted by examiner that while the prior art, specifically Bauernschmidt, teaches labels that identify design elements, the prior art does not suggest that that label could be changed to change the design elements from being associated with one characteristic to a second characteristic. The concept of a changeable label is also common in the art, but changing a label such that a characteristic is changed, and therefore, according to claim 7, *an aura and affinity region are also changed*, would not be obvious to one skilled in the art.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON M. RICHER whose telephone number is (571)272-7790. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kee M Tung/
Supervisory Patent Examiner, Art Unit 2628

/Aaron M Richer/
Examiner, Art Unit 2628

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